

Film vs Digital

THE CONTENDERS



In an effort to prove to myself, my family, and my friends that I am not nuts to lug 6+ pounds of medium format camera gear up the mountainside I conducted my own tests over the last few weeks on the resolving capabilities of various film and digital formats.

The contenders were:

1. Sprint Galaxy S III cellphone camera.
2. Nikon D300 with Nikkor AF 35-70 f/2.8 and Nikkor AF 70-200 f/2.8.

Nikon F4 with Nikkor AF 35-70 f/2.8 and Nikkos AF 70-200 f/2.8.

4. Mamiya RB67 Pro S with Mamiya Sekor 90mm f3.8 and Mamiya KL 250mm f/4.5.

I shot Kodak Ektar 100 in the film cameras and shot the D300 at 200 ISO and LO 1 (supposedly equivalent to 100 ISO). I tried to shoot both the film and digital cameras at as close to the same shutter speeds and apertures as possible but I have to admit that this was not always the case. The cellphone was shot in automatic. All were, except the Galaxy 3, shot off a tripod in mirror up mode.

I shot Kodak Ektar 100 in the film cameras and shot the D300 at 200 ISO and LO 1 (supposedly equivalent to 100 ISO). I tried to shoot both the film and digital cameras at as close to the same shutter speeds and apertures as possible but I have to admit that this was not always the case. The cellphone was shot in automatic. All were, except the Galaxy 3, shot off a tripod in mirror up mode.

To try to get the field of view the same for all shots:

1. The Mamiya RB67 Pro S was shot with my Mamiya Sekor 90mm f3.8 that has a 35mm film field of view of 44mm.
2. The Nikon D300 was shot with my Nikon AF 35-70 F2.8 at 35mm which has a 35mm film field of view of 53mm.

3. The Nikon F4 was shot with my Nikon AF 35-70 F2.8 at 53mm which has a 35mm film field of view of course of 53mm.

4. The Galaxy S III was shot with the field of view adjusted digitally to match the above as close as possible.

One set of shots was taken with:

1. The Mamiya RB67 Pro S shot with my Mamiya KL 250mm f/4.5 that has a 35mm film field of view of 118mm.

2. The Nikon D300 shot with my Nikkor AF 70-200 F2.8 at about 80mm which has a 35mm film field of view of 123mm.

3. The Nikon F4 shot with my Nikkor AF 70-200 F2.8 at 123mm which has a 35mm film field of view of course of 123mm.

The sensor on the D300 measures 23.6 mm x 15.7 mm and the Pixel Width is 4288 and the Pixel Height is 2848. Roughly this gives a sensor of 4600 px/in. When scanning the film negatives I wanted to get as close to this as possible while still using the scanning capabilities of a lab so that the limitations of my own home scanner and my talent in using it did not add another variable into the process. The lab I used scanned the 35mm negatives at 5035px x 3339px. Giving the size of the 35mm negative at 36mm x 24mm this gives an average resolution of 3543 px/in. The lab I used scanned the medium format negatives at 5902px x 4815px. Giving the size of the negative on my Mamiya RB67 is 68mm x 56mm this gives an average resolution of 2195 px/in. I did not calculate the resolution of the Galaxy S III. This is not perfect and gives a slight advantage to the digital images from the D300 but it is the best I could do.

The white balance on the D300 and Galaxy S III was set on Automatic. The Galaxy S III and D300 images were processed in Photoshop Elements adjusting their levels and applying the filter Noise Ninja mainly to correct for the anti-aliasing filter in these cameras. Film images were not modified in Photoshop Elements.

Before I get into the images themselves and the results you will have to excuse me as some of the images have exposures that are not ideal. Also, the actual colors are not identical as there are obvious differences between the way that a digital sensor and the chemical on a piece of film reveal colors to the human eye. These inconsistencies are really not very important though as the primary purpose of this test was to compare the resolving powers of these different modes of image taking. Well let's get to the images.